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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,479	03/01/2000	Carson P. Edwards	GE04093	3361

22863 7590 12/03/2003

MOTOROLA, INC.  
CORPORATE LAW DEPARTMENT - #56-238  
3102 NORTH 56TH STREET  
PHOENIX, AZ 85018

EXAMINER
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DUONG, DUC T

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 12/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/516,479

Applicant(s)

EDWARDS ET AL.

Examiner

Duc T. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10, 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 11, 12, 15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 3-5, 16 and 20-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3&4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toh et al (U.S. Patent 5,987,011) in view of Baran et al (U.S. Patent 5,115,433).

Regarding to claim 1, Toh discloses in a self-organizing network including a plurality of kindred nodes (Fig. 5A), a method of communicating a data packet from a source node to a destination node remote from the source node comprising the steps of transmitting a test packet (broadcast query) from the source node to at least some of the plurality of kindred nodes including the destination node (Fig. 6A col. 8 lines 15-22); determining a number of hops required to send the test packet from the source node to the destination node (col. 10 lines 1-4); and transmitting the data packet from the source node to the destination node via the optimum number of hops (col. 11 lines 27-34).

Toh fails to teach for changing the transmission power of the source node to adjust the number of hops required to send the test packet from the source node to the destination node to an optimum number.

However, Baran discloses a radio communication system with a forwarding decision logic for changing the transmission power of the source node to adjust the

number of hops required to send a signal from the source node to the destination node to an optimum number (col. 8 lines 3-31).

Thus, it would have been obvious to one of ordinary skilled in the art, at the time of the invention, to include the power adjuster as taught by Baran is Toh's system to achieve maximum forward progress using the least amount of power.

Regarding to claim 2, Toh and Baran fails to teach changing the transmission power includes increasing the transmission power in steps to adjust the number of hops to the optimum number. However, to implement the changing of transmission power in steps would have been obvious to one of skilled in the art to establish a threshold or level at which an optimum power is needed for transmission.

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toh and Baran, further in view of Shimojo et al (U.S. Patent 6,643,256 B1).

Regarding to claims 6 and 7, Toh and Baran disclose all the limitation with respect to claim 1 include assigning a priority to each data packet (col. 6 lines 23-26), except for performing the step of transmitting the data packet from the source node to the destination node on higher priority data packets first (claim 6); and incorporating a user policy of transmitting only packets with a priority above a selected priority (claim 7). However, Shimojo discloses a packet switch for transmitting data packet from the source node to the destination node on higher priority data packets first (col. 9 lines 9-12), wherein a congestion level (policy) is implemented to transmitting only packets with a priority above a selected priority (col. 8 lines 38-47). Thus, it would have been

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obvious to one skilled in the art to include the packet switch as taught by Shimojo in Toh and Baran's system for improving the efficiency of packet transfer.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Shimojo.

Regarding to claim 11, Shimojo discloses in a self-organizing network including a plurality of kindred nodes (Fig. 5), a method of communicating data packets from a source node to destination nodes remote from the source node comprising the steps of within the self-organizing network, assigning a priority to each data packet (col. 7 lines 18-21); incorporating in the source node a user policy of retransmitting only packets with a priority above a selected priority (col. 8 lines 38-47); receiving from kindred nodes in the data packets with a designated priority to be retransmitted (col. 11 lines 53-67); and

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retransmitting only data packets with a priority above the selected priority from the source node to destination nodes (col. 12 lines 34-44).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimojo in view of Toh, and further in view of Baran.

Regarding to claim 12, Shimojo discloses all the limitation with respect to claim 11, except for determining the number of hops required to send each data packet from the source node to a destination node and changing a transmission power of the source node to reduce the number of hops required to send each data packet from the source node to the destination node.

However, Toh discloses an ad-hoc mobile communication comprises determining a number of hops required to send the test packet from the source node to the destination node (col. 10 lines 1-4).

Thus, it would have been obvious to one of skilled in the art to include the information gathering mechanism as taught by Toh in Shimojo's system to provides efficient and high throughput communication between mobile hosts in an ad-hoc network.

Together, Shimojo and Toh fail to teach changing a transmission power of the source node to reduce the number of hops required to send each data packet from the source node to the destination node.

However, Baran discloses a radio communication system comprising a forwarding decision logic for changing the transmission power of the source node to

adjust the number of hops required to send a signal from the source node to the destination node to an optimum number (col. 8 lines 3-31).

Thus, it would have been obvious to one of ordinary skilled in the art, at the time of the invention, to include the power adjuster as taught by Baran is Shimojo and Toh's system to achieve maximum forward progress using the least amount of power.

7. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Toh (U.S. Patent 5,987,011).

Regarding to claim 15, Toh discloses in a self-organizing network including a plurality of kindred nodes (Fig. 5A), a method of communicating data packets from source nodes to destination nodes remote from the source nodes comprising the steps of including in each data packet information and packet handling commands (Fig. 6A col. 8 lines 59-67 and col. 9 lines 1-13); receiving from kindred nodes in the self-organizing network at source nodes data packets with the information and packet handling commands (col. 8 lines 23-35); adjusting operation of the source nodes in a way that allows the self-organizing network to be self-organizing, self-configuring, and self-healing (col. 11 lines 27-34); and retransmitting data packets from the source nodes to the destination nodes with a minimum of hops and delay (col. 10 lines 1-4).

8. Claim 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Baran.

Regarding to claim 17, Baran discloses a self-organizing network comprising a plurality of kindred nodes (Fig. 1) with each kindred node including a control for altering transmission power to change a transmission path (col. 8 lines 3-31).

Regarding to claim 18, Baran discloses each of the plurality of kindred nodes includes a decision engine for adjusting operation of a source node of the plurality of kindred nodes in a way that allows the network to be self-organizing, self-configuring, and self-healing (col. 8 lines 37-58).

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baran in view of Shimojo.

Regarding to claim 19, Baran discloses all the limitation with respect to claim 18, except for each data packet includes priority information and the decision engine includes user policy controls for retransmitting only data packets above a selected priority. However, Shimojo discloses a packet switch, wherein each data packet includes priority information and is retransmitted only with a priority above the selected priority from the source node to destination nodes (col. 12 lines 34-44).

***Allowable Subject Matter***

10. Claims 3-5, 16, and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 8-10, 13, and 14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or make obvious the step or means for "adjusting the transmission power of the source node until the number of kindred nodes plus two additional kindred nodes receive the transmission", when such adjusting is considered within the specific structure recited in method of claim 8. The prior art of



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record fails to teach or make obvious the step or means for "changing the kindred transmission frequency of the source node from the kindred transmission frequency to the hub transmission frequency", when such changing is considered within the specific structure recited in method of claim 13.


***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 703-605-5146. The examiner can normally be reached on M-Th (8:30 AM-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

DD



STEVEN H. D NGUYEN  
PRIMARY EXAMINER